

## IN THE CLAIMS

1. (currently amended) A system for increasing the capacity of assigning a call to one of a plurality of wireless frequency channels in a wireless communication network, comprising:

~~a wireless transceiver that assigns the call to one of the plurality of wireless frequency channels; and~~

~~identifies one of the plurality of wireless frequency channels for the call and provides a phase adjustment value an assignment modulation parameter to the transceiver for assigning the call to the frequency channel, wherein the assignment modulation parameter includes a phase~~ a modulation control device that assigns a modulation parameter to a call of a mobile which is using one of a plurality of frequency channels wherein the modulation control device uses at least the modulation parameter to modulate the call and uses the modulation parameter to identify the call, the mobile and the frequency channel .

2. (original) The system in claim 1, wherein the wireless communication network comprises an advanced mobile phone system (AMPS) network.

3. (currently amended) The system in claim 1, wherein the ~~modulation control device provides assignment~~ modulation parameter assigned to the call is a phase adjustment value and other modulation parameters including timeslot and frequency ~~to the transceiver.~~

4.(original) The system in claim 3, wherein the wireless communication network comprises a time division multiple access wireless network.

5. (original) The system in claim 3, wherein the wireless communications network comprises a time division multiple access personal communications system (PCS) network.

6. (original) The system in claim 3, wherein the wireless communications network comprises a time division multiple access global system for mobile communications (GSM) network.

7. (currently amended) The system of claim 1. ~~A modulation control device for use in a wireless communication network to assign a call to a next frequency channel selected from a plurality of frequency channels, comprising: a threshold detector that measures a transmission quality of each frequency channel; and a~~ wherein the modulation control device mechanism that selects the a next available frequency channel based on the a frequency channel quality measurement of the a threshold detector, and that selects a phase adjustment value modulation parameter, whereby the call is assigned to the next available frequency channel at using the selected phase adjustment value modulation parameter.

8. (currently amended) The system modulation control device of claim 7, wherein the modulation control device mechanism calculates the phase adjustment value modulation parameter to assign to the frequency channel.

9.(currently amended) The system modulation control device of claim 7, wherein the modulation control device mechanism stores a plurality of phase adjustment values modulation parameters.

10.(currently amended) The system modulation control device of claim 7, wherein the modulation control device mechanism selects the phase adjustment value modulation parameter that substantially distinguished different maximizes the phase separation between the calls on a single frequency channel.

11.(currently amended) The system modulation control device of claim 7, wherein the modulation control device mechanism selects the phase adjustment value modulation

parameter that provides a unique resultant ~~phase~~ modulation parameter value for the call on the frequency channel.

12. (currently amended) The system of claim 26, A mobile unit for use in a wireless communication network with a plurality of frequency channels, comprising: a transceiver; and a mobile wherein the modulation control device that receives a the phase adjustment value over the wireless communication network, and provides the phase adjustment value to the a transceiver for call retrieval during demodulation and for modulation during transmission.

a 13. (currently amended) The method of claim 17, A method for use in a wireless communication network with a plurality of frequency channels for assigning a call to one of the frequency channels further comprising:

assigning a frequency channel and a phase adjustment value to the call;  
communicating the ~~phase adjustment value~~ modulation parameter to a mobile unit that is associated with the call; and  
associating the ~~phase adjustment value~~ modulation parameter with the call so that the ~~phase adjustment value~~ modulation parameter can be used for transmitting the call and referenced for receiving the call.

14. (currently amended) The method of claim 17, A method for use in a wireless communication network with a plurality of frequency channels for assigning a call to one of the frequency channels further comprising:

measuring a transmission quality of the frequency channels individually; and  
evaluating the transmission quality of each frequency channel until a first frequency channel having a suitable transmission quality is identified; and  
assigning the call to the first frequency channel and assigning a first phase adjustment value to the call.

15. (currently amended) The method of claim 14 further comprising the step of associating the ~~phase adjustment value~~ modulation parameter with the call so that the ~~phase adjustment value~~ modulation parameter can be used for transmitting the call and referenced for receiving the call.

16. (original) The method of claim 14 wherein the evaluating step comprises comparing the transmission quality of the frequency channel to a value until the transmission quality exceeds the value.

ai 17. (currently amended) A method for increasing the capacity of use in a wireless communication network ~~with a plurality of frequency channels divided into a plurality of timeslots for assigning a call to at least one of the timeslots in one of the frequency channels,~~ the method comprising:

~~measuring a transmission quality of the frequency channels individually during each timeslot;~~

~~evaluating the transmission quality of each frequency channel during each timeslot until a first frequency channel having a suitable transmission quality is identified; and~~

~~assigning the call to the first frequency channel and assigning a first phase adjustment value to the call~~

assigning a modulation parameter to a call of a mobile which is using one of a plurality of frequency channels of the communication network wherein the modulation parameter identifies the call, the mobile and the frequency channel.

18. (currently amended) The method of claim 17 further comprising the step of associating the ~~phase adjustment value~~ modulation parameter with the call so that the ~~phase adjustment value~~ modulation parameter can be used for transmitting the call and referenced for receiving the call.

19. (currently amended) The method of claim 17 ~~24~~ wherein the evaluating step comprises comparing the transmission quality of the frequency channel during each timeslot to a value until the transmission quality exceeds the value.

20. (currently amended) The method of claim 17 ~~A method for use by a mobile unit to receive calls which are transmitted with a phase adjustment value, further~~ comprising:  
receiving a ~~phase adjustment value~~ modulation parameter that identifies, at least in part, a first call received on a frequency channel; and  
demodulating the first call on the frequency channel utilizing the ~~phase adjustment value~~ modulation parameter.

21. (original) The method of claim 20 further comprising the step of filtering out noise.

22. (currently amended) The method of claim 17 ~~A method for use by a mobile unit to transmit calls which have been assigned a phase adjustment value, further~~ comprising:  
receiving a ~~phase adjustment value~~ modulation parameter that identifies, at least in part, a first call of a mobile unit within a communications channel of a wireless communication network; and  
modulating the call utilizing the ~~phase adjustment~~ modulation parameter value.

23. (new) The method of claim 17, wherein the modulation parameter is a phase adjustment value.

24. (new) The method of claim 17, further comprising:  
measuring a transmission quality of the frequency channels individually during each of a plurality of timeslots, each the plurality of timeslots are associated with a frequency channel; and  
evaluating the transmission quality of each frequency channel during each timeslot until a first frequency channel having a suitable transmission quality is identified.

25. (new) The system of claim 1, wherein the modulation control device is coupled to a wireless transceiver that assigns the call to one of a plurality of wireless frequency channels.

26. (new) The system of claim 1, wherein the modulation parameter is a phase adjustment value.

---